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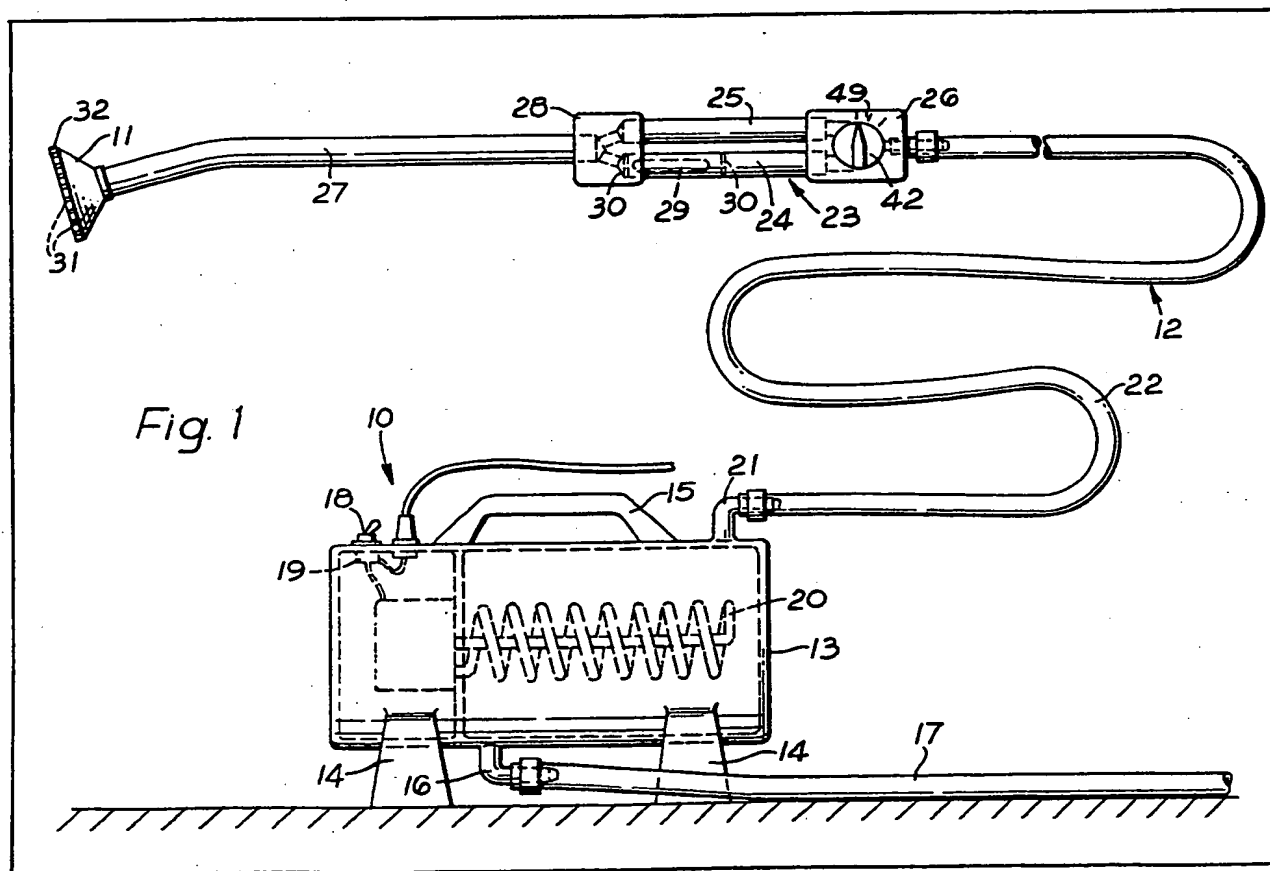
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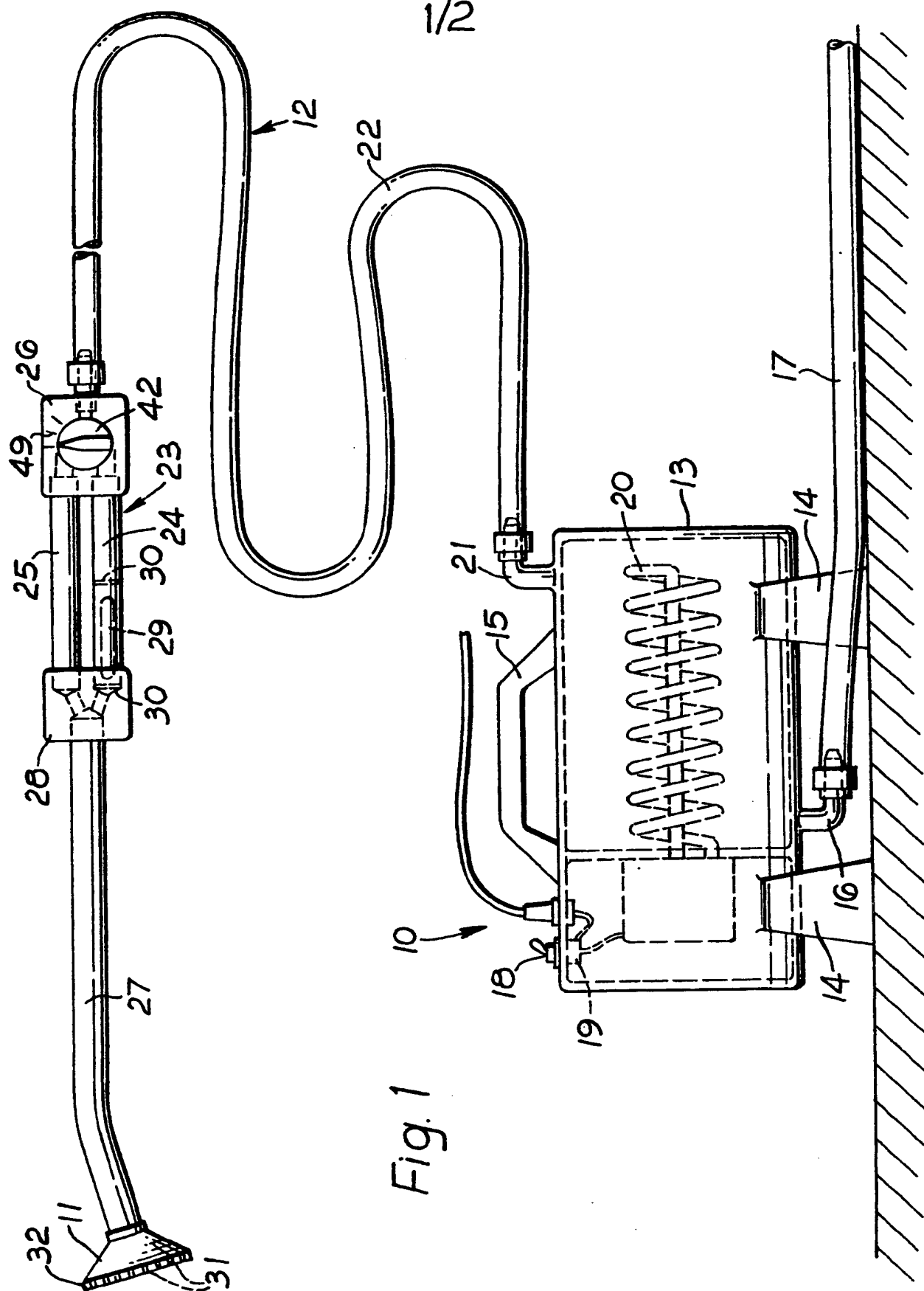
## (54) Vehicle washing apparatus

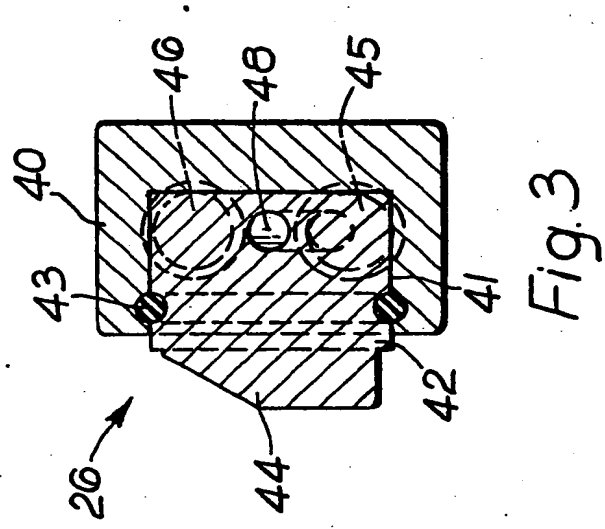
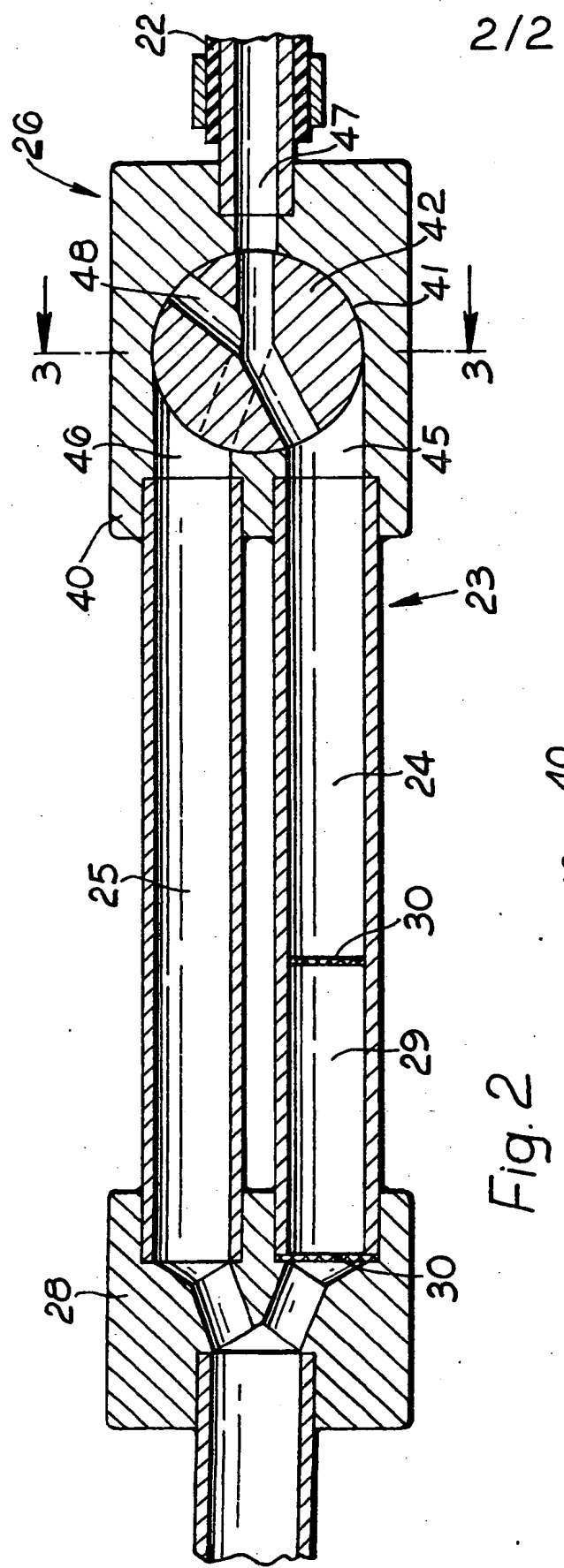
(57) A portable heater 10, containing an electrical heating coil 20 is connected to a water supply (not shown) and, in a flexible tubework 22,

to soaping means 23 and nozzle 11. At the soaping means 23 water may be directed, by use of selector valve 26, either via through channel 25 or dispenser 24 which contains soap/detergent in compartment 29. Thus when heater 10 is switched off, cold, clean or soapy water may be supplied to nozzle 11 and when heater 10 is on, hot, clean or soapy water may be likewise supplied. Resilient blade 32 and rigid tubework 27 permit removal of stubborn dirt.



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# SPECIFICATION Vehicle washing apparatus

This invention relates to a vehicle washing apparatus.

5 Vehicles tend to get covered in so-called road dirt comprising dust, grit, and grease, which sticks to vehicles and not only diminishes the visual appearance of vehicles but also tends to retain moisture in contact with the vehicle. Areas where  
10 moisture is concentrated are susceptible to rust formation. Therefore, vehicle owners usually wash their vehicles regularly to maintain a pleasing visual appearance and reduce the risk of rust forming. Hot water containing soap or detergent is  
15 ideal for vehicle washing and may be rinsed off using hot or cold clean water.

Vehicle owners can take their vehicles to so-called "car-washes" which, while being convenient, are automated and no special  
20 attention is paid to areas difficult to clean, e.g. behind bumpers, as difficult areas vary from vehicle make to vehicle make. Also because car washes are commercial they tend to be more expensive than other possible ways of washing  
25 vehicles.

Other ways of washing vehicles known at present are handwashing, using a bucket and sponge or cloth, and using a hosepipe to spray  
30 water. Handwashing a vehicle is a laborious task in which one needs to go to and from a water supply carrying heavy buckets of water. Firstly, one needs hot water containing soap or detergent. This water is applied by hand, using a sponge or  
35 cloth, to the vehicle and in cold weather this task is disagreeable as wet hands tend to become chafed and sore. The vehicle is then rinsed, usually with plain cold water. Areas such as the vehicle's roof and windscreen are often difficult to reach and clean effectively and they usually require one  
40 to stretch over and lean against parts of the vehicle. If the parts one leans against have not been washed, road dirt is rubbed off on one's clothes and if the parts have been recently washed then they are usually wet and cause damp patches  
45 on one's clothing.

Using a hosepipe to direct water onto the vehicle overcomes some of the problems associated with hand washing. However, one  
50 tends to get splashed with spray bouncing off the vehicle because to aim the spray one has to hold the hosepipe near its spray nozzle and therefore, be close to the vehicle. Also, when using a hosepipe, one cannot add soap or detergent to the water which is being sprayed and one cannot  
55 easily alter the water's temperature.

An object therefore, of the present invention is to provide a vehicle washing apparatus capable of providing hot or cold water which may or may not contain soap or detergent, the apparatus being  
60 such that an operator can conveniently apply water to a vehicle without becoming wet.

Pursuant hereto, the present invention provides, a vehicle washing apparatus comprising a controllable water heater connectible to a water

65 supply, tubework connecting the heater to a distributor nozzle, and soaping means between the heater and nozzle for selective addition of soap/detergent; said apparatus being capable of providing cold clean water, cold soapy water, hot clean water, and hot soapy water on selection, to be sprayed via the nozzle.

Preferably the water heater is electric and thermostatically controlled to prevent boiling.

Moreover the water heater is advantageously  
75 portable by means of a handle extending therefrom.

For ease of use, the distributor nozzle may be a substantially flat bat wing configuration having fine spray outlets and a resilient edge of, for  
80 example, rubber. However, the distributor nozzle may have only one outlet and be so constructed so as to supply a single jet of water.

The soaping means preferably comprises two channels, a dispenser and a through channel,  
85 having, at their divergence, a selector valve which allows selection of water flow through the soap/detergent dispenser, or through the through channel.

The tubework is advantageously flexible from the heater to the soaping means and substantially  
90 rigid from the latter to the distributor nozzle.

The invention will be described further, by way of example, with reference to the accompanying drawings, in which:

95 Fig. 1 is a sketch of a preferred practical embodiment of the vehicle washing apparatus of the present invention;

Fig. 2 is an enlarged cross-section of soaping means which form part of the embodiment of the  
100 apparatus shown in Fig. 1; and

Fig. 3 is a cross-section along the line 3—3 of Fig. 2.

As shown in Fig. 1, a preferred embodiment of the vehicle washing apparatus of the invention  
105 comprises a water heater 10, a distributor nozzle 11, and tubework connecting them.

The water heater 10 is formed as a cylindrical tank 13 supported upon four legs 14 and having a handle 15 extending upwardly from the tank 13 at a location above the axis of the tank 13. The  
110 heater 10 is connectible by an inlet spigot 16 at the underside of the tank 13 and a pipe 17 fitted to said spigot 16 to a mains water supply (not shown) and is powered by electricity. The heater 10 has an on/off switch 18 comprising a thermostatically controlled circuit breaker 19. The circuit breaker 19 switches off the heater 10 at a temperature below the boiling point of water. The heating element is a heating coil 20 having a power rating of about 3 kilowatts. Of course,  
120 higher or lower rated heating coils can be used. Flow of water through the heater 10 is controlled by a valve (not shown), e.g. a globe valve, located after the heating element in an outlet spigot 21 at the top of the tank 13.

125 The water heater 10 is connected, by way of flexible tubework 22 to a soaping means 23 comprising two channels, a dispenser 24, and a through channel 25, having a selector valve 26 at

their divergence.

As shown in Figs. 2 and 3, the selector valve 26 comprises a substantially rectangular prism 40 having a lateral cylindrical bore 41 wherein a switch 42 is rotatably fitted. A rubber O-ring 43 seals the switch 42 in position. Extending laterally from the switch 42 is a handhold and indicator 44 by means of which an operator is able to turn the switch 42. Two parallel cylindrical bores 45 and 46, forming the ends of the dispenser 24 and the through channel 25 respectively, connect one end of the prism 40 to the bore 41. A further bore 47, to which the end of the flexible tubework 22 is connected, extends centrally of the prism 40 from the opposite end of said prism 40 to the bore 41 wherein the switch 42 is located. A Y-shaped passageway 48 is formed in the switch 42. Markings on the prism 40, generally designated by the reference numeral 49 (Fig. 1), serve to indicate the necessary position of the handhold and indicator 44 to connect the flexible tubework 22 to the dispenser 24 or the through channel 25 via the Y-shaped passageway 48.

Thus either the dispenser 24 or the through channel 25 may allow water to flow from the flexible tubework 22 to more rigid tubework 27 which connects the soaping means 23 to the distributor nozzle 11. The dispenser 24 joins the through channel 25 before the rigid tubework 27 by way of a connection piece 28. Adjacent the connection piece 28 the dispenser 24 contains a soap compartment 29, each end of which is defined by a respective filter 30.

The rigid tubework 27 has, at its end remote from the soaping means 23, the distributor nozzle 11 which is of a substantially bat wing configuration. Arranged along its long edge are fine spray outlets 31 and a resilient blade 32 of a suitable material e.g. rubber.

The apparatus is thus formed in sections namely the pipe 17, the heater 10, the flexible tubework 22 the soaping means 23, the connection piece 28, the rigid tubework 27 and the nozzle 11, which may be easily dismantled for convenient storage.

The mode of operation of the apparatus of the invention will be readily understood from the foregoing description. Firstly, the apparatus is assembled and connected to a cold water supply, at a convenient location adjacent a vehicle to be washed. The heater 10 is of course easily carried to a selected location by means of the handle 15. A piece of soap or detergent is placed in the compartment 29 of the soaping means 23, as indicated in broken lines in Fig. 1, and water is allowed to flow through the apparatus by opening the valve of the heater 10. Cold water is supplied at a pressure and can be directed, by use of the selector valve 26, either via the through channel 25 or the dispenser 24. Of course, when the heater 10 is switched on hot water is supplied to the soaping means 23 and can be directed along either channel 24 or 25, same as for cold water.

For example with the switch 42 in the position shown in Figs. 2 and 3, water is directed along the

dispenser 24 via a path indicated by arrow A in the passageway 48. However if the switch 42 is turned clockwise, water is diverted along the channel 25 via a path indicated by arrow B in the passageway 48.

One can therefore, supply cold clean water, cold soapy water, hot clean water, and hot soapy water to the distributor nozzle 11 according to the position of the selector valve 26 and state of the heater 10. Water which issues from the nozzle 11 can be directed at the vehicle to be washed and the resilient blade 32 can be used to effect removal of stubborn deposits of road dirt.

The apparatus provides for a convenient and effective method of washing a vehicle. An operator of the apparatus has the possibility of selecting hot or cold water which may be soapy if desired using the three controls present i.e. the on/off switch 18, the valve of the heater, and the selector valve 26. The rigid tubework 27 from the soaping means 23 to the nozzle 11 allows the operator to stand back from the vehicle and not get splashed. Provision of the resilient blade 32 on the nozzle 11, for removal of stubborn deposits of road dirt, means the operator does not need to get his hands wet while washing the vehicle.

For domestic use, the heater may be permanently installed on a garage wall and the flexible tubework should be long enough to allow for vehicle washing outside the garage.

The invention is not confined to the precise details of the foregoing example and variations may be made thereto. For instance, the distributor nozzle may be replaced by a simple one jet nozzle which will provide a single jet of water. Such a jet of water can be used to clean parts of a vehicle which may be difficult to wash using a bat wing nozzle. Also the rigid tubework may be cranked, near the nozzle, so as to allow easy washing of a vehicle roof and/or bonnet. Having the rigid tubework cranked also facilitates cleaning of underneath parts of a vehicle as well as removal of mud and salt. The soaping means may be formed in one piece with the connection piece in which access to the soap compartment will be by way of an aperture in the dispenser wall, which aperture should be sealed by a removable cover plate whenever water flows through the soaping means. Alternatively the soaping means may comprise a single through channel into which soap or detergent can be injected, as and when required, by, for example, a syringe type injector. Finally, the heater may be of any convenient shape and size, it need not have a handle to render it easily portable and may be free-standing or attached to a surface such as a wall or floor by means of an appropriate bracket. Instead of a heating coil, the heating element may be an immersion heater and said element may be of any appropriate power rating.

## 125 CLAIMS

1. A vehicle washing apparatus comprising a controllable water heater connectible to a water supply, tubework connecting the heater to a distributor nozzle, and soaping means between

the heater and the nozzle for selective addition of soap/detergent; said apparatus being capable of providing cold clean water, cool soapy water, hot clean water, and hot soapy water on selection, to be sprayed via the nozzle.

- 5 2. A vehicle washing apparatus as claimed in claim 1 wherein the water heater is electric and thermostatically controlled to prevent boiling.
- 10 3. A vehicle washing apparatus as claimed in claim 1 or 2 wherein the water heater is portable by means of a handle.
- 15 4. A vehicle washing apparatus as claimed in claim 1, 2 or 3 wherein the distributor nozzle is a flat bat wing configuration having fine spray outlets and a resilient edge.
5. A vehicle washing apparatus as claimed in claim 1, 2 or 3 wherein the distributor nozzle has

only one outlet so as to supply a single jet of water.

- 20 6. A vehicle washing apparatus as claimed in any preceding claim wherein the soaping means comprises two channels, a dispenser and a through channel, having, at their divergence, a selector valve which allows selection of water
- 25 flow through the soap/detergent dispenser or through the through channel.
7. A vehicle washing apparatus as claimed in any preceding claim wherein the tubework is flexible from the heater to the soaping means and
- 30 substantially rigid from the latter to the distributor nozzle.
8. A vehicle washing apparatus substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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